they have taken on various questions discussed in the text, but by far the most valuable feature of the book, which alone is worth many times its price to any teacher of biology, is the very complete and fully annotated bibliography, brought down to date, and including all the more important bulletins that the teacher may obtain free of cost.   With the manual at hand there can be little excuse for any teacher not having a valuable biological reference library at a trifling cost.

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Plane and Solid Geometry.   By C. A. HART and DANIEL D. FELDMAN. New York: American Book Co., 1912.   Pp. viii +488. $1.25.

This text, while it follows the traditional order and method of development of the subject, has a number of distinctive features.   To those teachers who are looking for another book of this type the present volume should make a strong appeal.   Among the prominent features is an arrangement in parallel columns of the steps in the proofs of theorems and their reasons.   "This arrangement gives a definite model for proving exercises, renders the careless omission of the reasons in a demonstration impossible, leads to accurate thinking, and greatly lightens the labor of reading papers."

Most of the proofs of theorems are given in full.   Some of the easier theorems are left for the pupil to prove, especially in the solid geometry.   Yet those who believe strongly in the suggestive method of treatment of theorems must look elsewhere.

The collection and arrangement of abstract exercises of the usual types is good.   But to those teachers who are interested in the attempt to vitalize geometry by teaching it in relation to its practical uses in the world's work, the applied problems in this new text will prove a disappointment.

The proofs of the "incommensurable cases" of theorems, which an increasing number of teachers think a waste of the time of the average boy or girl, are given.   The trigonometric functions and their application to the measurement of distances are not introduced in connection with similar triangles, as in many of the newer texts and as recommended by associations of teachers of mathematics.

The many historical notes give interest to the subject.   The drawings are well executed.

Complete Business Arithmetic.   By GEORGE H. VAN TUYL.   New York: American Book Co., 1911.   Pp. 416.

Teachers of commercial classes will welcome this text.   Emphasis is placed upon developing facility and accuracy in handling the fundamental operations. The aim is the mastery of fundamental principles rather than of set rules in the solution of problems.   The problem material has informational value.   Many of the problems are taken from the business affairs of corporations, cities, states,

and nations of the world. Many calculation tables are illustrated and applied to the solution of problems. The book gives an accurate and adequate view of business as it is actually carried on today. For this reason the text would make a valuable reference book for all teachers of arithmetic and also for business men.

First Year Algebra. By WEBSTER WELLS and WALTER W. HART. Boston: D. C. Heath & Co., 1912. Pp. vi+325.

This text follows the modern tendency to make the solution of equations and problems the core of the course in elementary algebra. Each topic that is taken up is used in the solution of equations, a feature that is to be commended because it makes the mechanical work more purposeful and makes it function better than under the old plan.

New ideas in grouping, similar to those carried out in most of the new texts on elementary algebra, have been executed in this book. Thus, only the easier cases in factoring are given at first; the treatment of radicals and imaginaries is simplified.

One might wish that the present text, in many ways admirable, contained a greater variety and larger collection of good real applied problems that demonstrate the intrinsic worth of the subject to the pupil. The very large number of the old-time problems about A's and B's ages and problems about A and B doing a piece of work in so many days can be of only doubtful interest or value to the pupil. Also, the so-called "informational" problems, of which the book contains a large number, have been severely criticized in recent times as being totally unreal and as giving erroneous ideas as to how the world's work is actually carried on. Such a problem is: "The total population of Chicago, Philadelphia, and Greater New York (1910 Census), was 8,501,174. The population of Chicago exceeded the population of Philadelphia by 626,275; the population of New York exceeded twice the population of Chicago by 396,317. Find the population of each of the cities." No one would attempt in real life to get the answers to this problem by algebra, but would consult a table of statistics. The answers had to be known before the problem was made.

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